ON-SCENE COORDINATOR'S REPORT

CERCLA REMOVAL ACTION

CHICAGO MODERN PLATING

CHICAGO, ILLINOIS

SITE ID# JU

DELIVERY ORDER NO. 7460-05-175

REMOVAL DATES: January 4, 1990 - August 20, 1990

Emergency and Enforcement Response Branch
Office of Superfund

EXECUTIVE SUMMARY

Site/Location: Chicago Modern Plating/Chicago, Cook County, Illinois Removal Dates: January 4, 1991 - August 20, 1991

INCIDENT DESCRIPTION:

This site was a bankrupt metals plating facility located in a mixed residential/commercial area in Chicago, Illinois. On December 19, 1990, the U.S. EPA entered into an Administrative Order by Consent (AOC) with the property owner to conduct a removal action at the site. While the removal action was being initiated by the property owner, one of four clarifying tanks ruptured, spilling approximately 5000 gallons of cyanide bearing wastewater and sludge onto Rockwell Street and into a nearby city sewer. This material posed direct contact, inhalation, and ingestion threats to nearby residences and workers. At the direction of the On-Scene Coordinator, the property owner hired a contractor, and cleaned the spillage from the street and sewer. Shortly afterwards, the attorney for the property owner announced that his client's funds were depleted, and the U.S. EPA completed the removal action as described in the AOC. The removal action was taken to mitigate threats to public health posed by the presence of various plating related chemicals including, but not limited to, plating vat bottoms, cyanide containing liquids and sludges, as well as acids and various laboratory chemicals.

ACTIONS TAKEN:

The U.S. EPA began a removal on January 4, 1991. The following emergency removal activities were performed:

Phase I (Financed by the PRP)

- -The clarifying tanks were secured to minimize the potential for further releases of wastes.
- -The cyanide containing sludge was removed from the street and stored in drums within the facility.
- -The area of the release was decontaminated.

Phase II (Financed by the U.S. EPA)

- -All of the tanks vats and containers were staged and sampled.
- -All of the samples were categorized according to compatibility groups.
- -Compatible waste streams were bulked.
- -All usable equipment and materials were sold through the court appointed trustee and broker.
- -All plating lines were dismantled.
- -All cyanide bearing sludge was treated on-site to meet the RCRA Land Disposal Restrictions and disposed of off-site.

-All wastewaters were treated for metals and cyanide and shipped off-site for further treatment and disposal.
-All remaining laboratory chemicals not bulked with the sludges or wastewaters were labpacked and transported off-site for disposal.
-Asbestos was removed from the facility and disposed of off-site.

Approximately 480 cubic yards of special non-hazardous debris were transported off-site for disposal. Approximately 250 cubic yards of cyanide bearing sludge was treated on-site and shipped off-site for disposal. Approximately 45,215 gallons of wastewater were treated on-site and transported off-site for additional treatment and disposal. Approximately 9 pounds of laboratory chemicals containing mercury, arsenic, and cadmium, were shipped off-site for disposal. Approximately 20 cubic yards of friable asbestos were removed from the facility and disposed of.

The removal was completed on August 20, 1991, at an estimated cost under control of the OSC of $ 1,805,343 of which $ 1,617,962 was for the Emergency Response Cleanup Services contract. The On-Scene Coordinator was Charles Gebien.

Charles Gebien, On-Scene Coordinator
Emergency and Enforcement Response Branch
United Sates Environmental Protection Agency
Region V

12/17/93
Date

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Emergency and Enforcement Response Branch
Office of Superfund, U.S. EPA, Region V

OSC REPORT STANDARD APPENDICES LIST *

Site Name: Chicago Modern Plating
Site ID#: JU Delivery Order #: 7460-05-175

1. OPERATIONAL FILES	ID#
- Action Memos/Additional Funding Requests	1-A
- POLREPS	1-B
- Site Entry/Exit Log	1-C
- Hot Zone Entry/Exit Log	1-D
- Site Safety Plan	1-E
- Site Log(s)	1-F
- Daily Work Orders	1-G
- Site Maps	1-H
- Site Contacts	1-I
- General Correspondence	1-J
- Site Photos	1-K
- Site Videos	1-L
- Incident Reports	1-M
- Administrative Record	1-N
- Liquidation Receipts	1-O
- Daily Safety Meeting Logs	1-P

2. Financial Files	
- Delivery Orders	2-A
- Technical Directive Documents (TAT)	2-B
- Daily Cost Reporting U.S. EPA Form 1900-55's	2-C
- Daily Cost Summaries	2-D
- ERCS Invoices	2-E
- Cost Estimates/RCMS	2-F
- Incident Obligation Log	2-G
- Contractor Daily Expense Reports	2-H
- Subcontractor Bid Sheets	2-I
- TAT Cost Documentation	2-J
- ERCS Cost Projections	2-K
- Equipment Log	2-L

3. Technical Files	
- TAT Site Assessment	3-A-1
- TAT Memos	3-A-2

* Portions of these OSC Report Appendices may contain confidential business information or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

* Note that certain files for this site are maintained elsewhere by EERB; these appendices are those files maintainedby the OSC during the removal.

1.0 SUMMARY OF EVENTS

1.1 Site Location/Initial Situation

The Chicago Modern Plating (CMP) site is a bankrupt electroplating facility, located at 3029 N. Rockwell Street in Chicago, Cook County, Illinois 60618. The approximately 21,000 square feet CMP facility is located in a mixed residential/commercial/industrial area on the city's north side (see Figure 1). The site is surrounded on the north, south, east, and west, by various commercial industries. Within two blocks of the site is a residential neighborhood. The facility contained nine plating and cleaning lines for brass, zinc, and nickel plating, as well as a polishing room, a chemical storeroom, a laboratory, a maintenance room, a racking area, a warehouse, a clarifyer room, and a wastewater treatment area (see Figure 2).

The site was referred to the U.S. EPA by the Trustee for the bankruptcy estate. While the potentially responsible party (PRP) was preparing plans for a voluntary removal action, one of four clarifying tanks ruptured and approximately 5,000 gallons of cyanide containing sludge were released onto the street and into the nearby city sewer.

1.2 Site History

The CMP facility began operating on August 1, 1958. Operations ceased at the facility on April 19, 1990. In May 1990, CMP filed for Chapter VII Bankruptcy in the U.S. Bankruptcy Court. In June 1990, the U.S. Justice Department Trustee for the CMP bankruptcy case requested that the U.S. EPA investigate conditions at the site. On June 27, 1990 the U.S. EPA and Technical Assistance Team (TAT) performed a site assessment and found large volumes of plating waste remaining on-site in an unsecured and dangerous manner. On December 6, 1990, the U.S. EPA entered into an Administrative Order by Consent (AOC) with the property owner Lorraine Arendt (PRP). While plans for the removal action were being developed by the PRP, a clarifying tank ruptured, spilling aproximately 5000 gallons of cyanide bearing wastewater and sludge onto the street and into a city sewer. The PRP financed the cleanup of the clarifier release. The U.S. EPA completed the cleanup of the main facility, after the attorney for the PRP announced that the PRP could not finance any further removal activities, due to lack of funds.

1.3 Threat to Public Health and/or the Environment

The site posed an imminent and substantial threat to human health and/or the environment based upon the following criteria set forth in the National Contingency Plan (NCP) Section 300.415(b)(2):

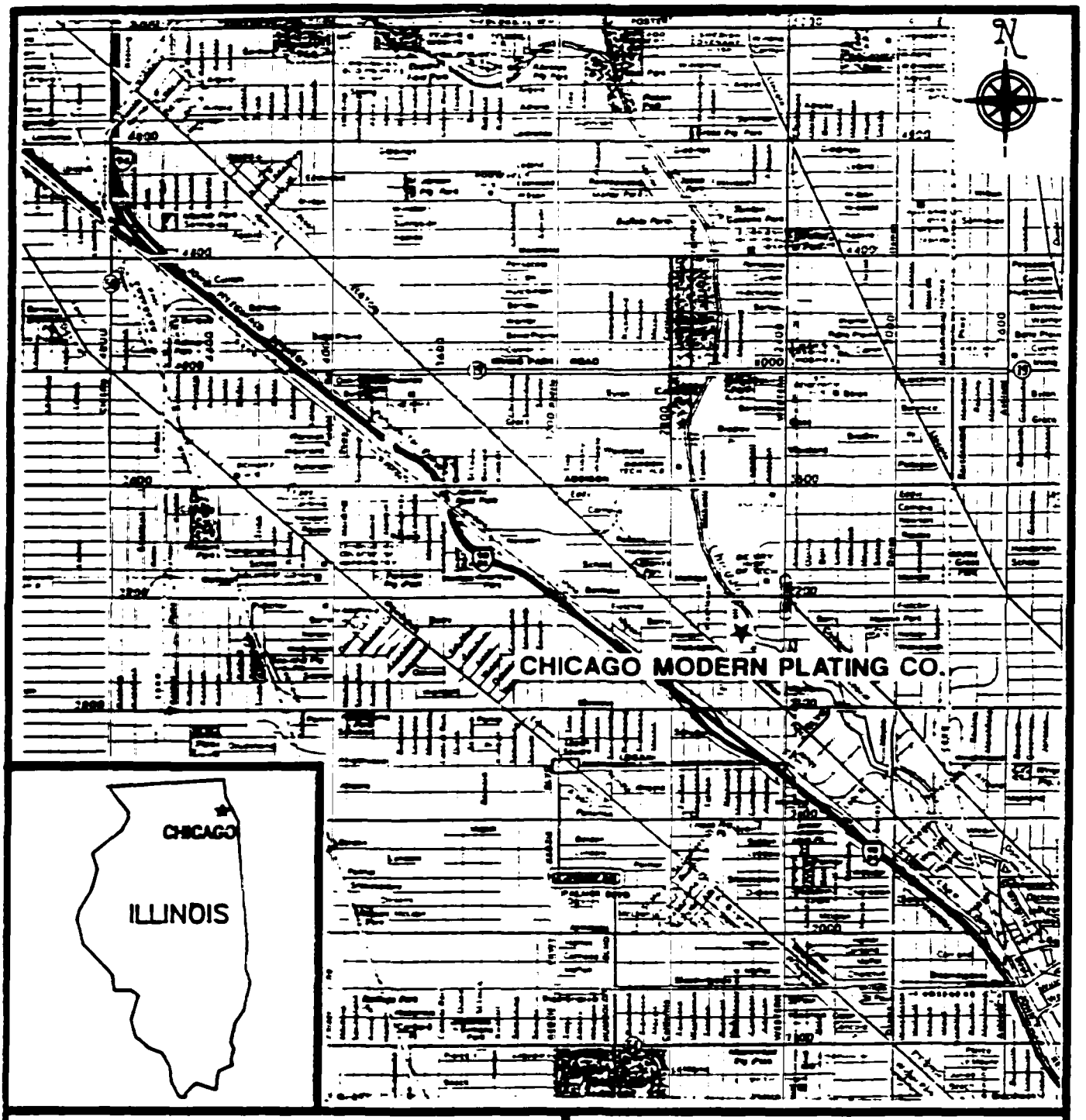

FIGURE 1

SITE LOCATION MAP

CHICAGO MODERN PLATING CO.

CHICAGO, ILLINOIS

SCALE: 1 INCH = APPROXIMATELY 0.67 MILES

SOURCE: RAND MCNALLY

EPA U.S. EPA

EMERGENCY AND ENFORCEMENT RESPONSE BRANCH

REGION V

TITLE	SITE LOCATION MAP	PAGE #	1
SITE	CHICAGO MODERN PLATING	ZONE	
CITY	CHICAGO	STATE	IL
		TDD	EIL0727FAA

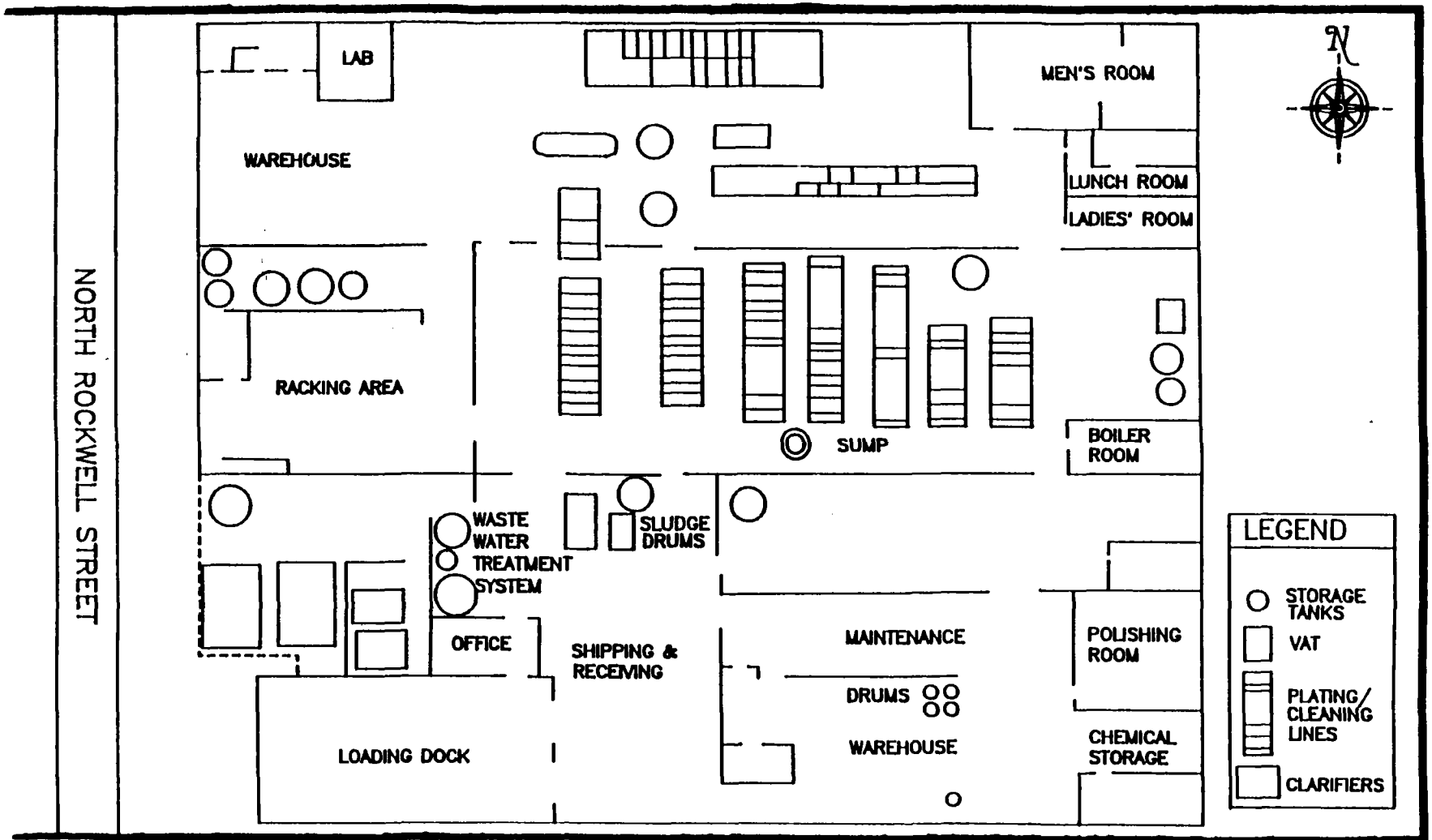

FIGURE 2
SITE MAP

CHICAGO MODERN PLATING CO.

CHICAGO, ILLINOIS

NOT TO SCALE

EPA U.S. EPA REGION V
EMERGENCY AND ENFORCEMENT RESPONSE BRANCH

TITLE: SITE FEATURES MAP	FIGURE #: 2
SITE: CHICAGO MODERN PLATING	SCALE:
CITY: CHICAGO STATE: IL	FAN: EIL0727FAA

- o Actual or potential exposure to hazardous substances or pollutants or contaminants to nearby populations, animals, or the food chain.

The CMP site is located in a mixed residential/commercial/industrial area on the north side of Chicago. Open and broken windows were observed at the facility. Numerous open drums, tanks, and vats containing hazardous material were stored in the building. The plating lines were uncovered and contained plating solutions, acids, caustic cleaners, and rinse waters. A partially full 3000 gallon tank containing hydrochloric acid (HCl) remained in the fenced yard outside of the building. No containment structures were present. The building was equipped with an alarm system which was not in use.

- o Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release.

The nine plating lines in this facility contained plating solutions, acids, caustic cleaners, and rinse water. Alkaline zinc solution, caustic cleaner, hydrochloric acid, sulfuric acid, chromic acid, cyanide brass solution, cyanide zinc solution, and nickel plating solution remained in the uncovered plating lines. Approximately 10 full or partially full bulk storage tanks, and several open drums and vats of waste liquids and sludges were stored in the facility. Approximately eighty 55 gallon deteriorated drums of cyanide sludge were also stored in an unsecured and dangerous manner in the building. Two clarifying tanks which contained cyanide bearing sludge, were located outside the facility next to a partially full 3000 gallon tank of hydrochloric acid.

- o Weather conditions that may cause hazardous substances or pollutants of contaminants to migrate or be released.

The wastewater treatment clarifiers collected both plating line wastewater and rain water. In the case of heavy rains and/or power loss, overflow of these storage tanks could have resulted in contaminated water infiltrating the city storm sewers and the street. Severe cold caused the freezing and rupture of the pipes leading to the tanks and allowed cyanide bearing sludge to leak onto the street and into the sewers. The roof of the building also leaked in several areas, allowing rainwater to react with open containers of chemicals stored inside the building.

1.3.1 Natural Resource Damage

No formal report addressing the possibility of natural resource damage was ever completed for the CMP site. Since the site is located in a mixed residential/commercial area; with no wetlands or bodies of water nearby, damage to natural resources, if any, would be minimal.

1.4 Attempts to Obtain a Response by Potentially Responsible Parties

On December 6, 1990 the U.S. EPA entered into an Administrative Order by Consent (AOC) with the property owner Lorraine Arendt (PRP). The PRP financed Phase I of the removal action which included the cleanup of the cyanide sludge that had spilled onto the street from the ruptured clarifying tanks. On January 31, 1991, the attorney for the PRP Loraine Arendt, notified the U.S. EPA Office of Regional Counsel (ORC) attorney John Tielsch of her inability to continue to finance a removal action as planned within the AOC.

1.5 Response Actions Taken

On Friday, January 4, 1991, a release of F006 wastewater from one of the CMP outdoor clarifyers was discovered by a renter of the property. A pipe had ruptured due to freezing conditions, and F006 wastewater had leaked from the tank, off the site, across a concrete sidewalk, and into a city sewer, as evidenced by a frozen path of water/sediment on the sidewalk and street. U.S. EPA OSC Charles Gebien and TAT Julie Zakutansky met the PRP, Mr. Arendt, on site. Mr. Arendt agreed to immediately contract SET Environmental to complete the following work: 1) prevent any further release of wastewater/sediment from the East clarifyer, 2) secure the frozen North and South 5,500 gallon clarifyers, which were full, by installation of steel fittings and valves, 3) clean all frozen wastewater and sediment from the street, sewer catch basin, sidewalk, and outdoor tank area; and 4) properly package and store the collected spillage until disposal was arranged.

During the period of January 4-9, 1991, Mr. Arendt and SET Environmental completed the above tasks and stored the wastewater and sediment in thirty-four 55 gallon steel drums inside the plating facility. The PRP financed this portion of the removal but was later unable to commit any further funding.

An Action Memorandum for expending $729,800 in order to mitigate threats to public health and the environment was approved on January 23, 1991. The U. S. EPA ERCS contractor PEI was authorized on February 5, 1991, to perform the removal action, under Contract No. 68-01-7460, Delivery Order No. 7460-05-175.

PEI subcontracted the work to OH Materials (OHM). An Amended Action Memorandum for a ceiling increase of $675,416 was approved on April 2, 1991. The new project ceiling was $1,405,216. A second Amended Action Memorandum for an additional ceiling increase of $403,710 was approved on June 5, 1991. The total project ceiling for the removal action was $1,808,926.

1.5.1 Safety and Support Facilities

OHM mobilized to the site on February 11, 1990. Initial activities included collecting and disposing of clean scrap wood and metal deposited throughout the site. A decontamination area was established and subsequently cleaned, isolated, and stocked. A site safety plan was developed jointly by U.S. EPA, TAT, and OHM personnel. The on-site laboratory, which was later used for on-site hazard categorization (hazcating) procedures, was partitioned, inventoried, and cleaned.

1.5.2 Salable Equipment

Throughout the course of the project the court-appointed broker would remove salable equipment, chemicals, and machinery. The money raised from the sale of this material went directly to the estate to pay creditors within the bankruptcy claim. B & J Polishing, a tenant operating in the CMP site's polishing room ceased operations and completed the removal of its equipment on February 18, 1991.

1.5.3 MWRD Disallows Discharge

The Metropolitan Water Reclamation District (MWRD), as a matter of policy, would not allow discharges of treated wastewaters from CERCLA Removal Action sites to their sewer connections, nor would they accept the wastewater through shipment via tanker trucks to their POTW's. As a result, all wastewaters from the CMP site had to be sent to commercial treatment facilities at increased costs. In order to prevent any possible release to the sewer system, the floor drains inside the facility were plugged with expandable plugs or concrete. Rain water was continually vacuumed up and stored in holding pools erected on-site.

1.5.4 Staging, Sampling, Compatibility, and Treatibility

During the end of February and throughout March the project mainly focused on completing the staging and sampling of all containers on-site. This was followed by hazcating or compatibility testing of each sample. After compatibility tests were complete, each sample was bulked into an appropriate waste stream. If the bench scale bulk tests went without complication, a full scale bulking scheme was implemented. Drums and pails were staged in separate areas within the building according to the following groups: acids, bases, base neutral liquids,

solids, and unknowns. By March 8, 1991, TAT had completed hazcating procedures on over 550 samples collected by OHM. A 10% QA/QC check on the hazcat samples was initiated, as well as more extensive chromate testing, to be performed by OHM.

Emergency permits for the disposal of special non-hazardous waste debris as well as stabilized F006/F008 solids were arranged with the State of Illinois and Chemical Waste Management-CID (CWM-CID) Calumet City, Illinois. The special non-hazardous waste was collected and disposed of as it was accumulated, throughout the course of the project. A bench scale treatibility study of the F006 sludge was completed and the analytical results were submitted to CWM-CID pending aproval. The F006 sludge was treated with portland cement to fixate the metals, and sodium hypochlorite to destroy the cyanide.

Bench scale bulk tests were initiated and bulking of the low and high cyanide containing liquids, chrome containing liquids, and base neutrals was begun. The wastewaters were stored in four large pools and various poly tanks erected on-site for that purpose. Treatibility tests for the bulked wastewater, followed by full scale treatment of the pools had begun by the end of March. Treatibility studies indicated that the base neutral and cyanide wastewaters could be treated with sulfuric acid and hydrogen peroxide. The sulfuric acid effectively lowered the pH of the solution, and the hydrogen peroxide destroyed the cyanide. The chrome wastewaters were treated with sulfuric acid and sodium bisulfite. Again, the sulfuric acid lowered the pH of the solution and the sodium bisulfite reduced the chrome from hexavalent to trivalent chrome.

After the wastewaters were treated, the resultant sludge was separated, dewatered, and set aside for further treatment. Polymers were often added to the wastewaters to facilitate solid separation. Much of the sludge and solids on-site had a high metal and cyanide content; they were treated with portland cement, tetrasodium ethylenediamine tetraacetic acid (EDTA), and sodium hypochlorite. The cement fixated the metals, EDTA (a chelating agent) effectively bound nickel, and the sodium hypochlorite destroyed the cyanide.

Seven insulation samples taken within the facility were analyzed and determined to contain asbestos. PEI was authorized to put together a bidding package for the removal of the asbestos from the facility.

1.5.5 Procurement of Additional Funding

On April 2, 1991, an Amended Action Memorandum for a ceiling increase of $675,416 was approved and brought the ceiling for the project up to $1,405,216. The additional funding was necessary to cover costs which were not anticipated in the January 23, 1991

Action Memorandum. These costs included 1) labor and disposal involved in the demolition of plating equipment including tanks, vats, and piping that could not be effectively decontaminated; 2) removal and disposal of friable asbestos materials; 3) maintenance of the site's heating system to prevent freezing of the waste vessels; 4) the increased costs associated with transportation and disposal of all wastewaters on-site as a result of the MWRD's decision to not allow discharge into the city sewer system.

1.5.6 Continued Treatment, Demolition, and Disposal

The majority of the laboratory inventory was bulked with existing waste streams. There were small quantities of mercury, cadmium, and arsenic compounds which needed to be labpacked and sent off-site for disposal.

Floor sweepings were bulked with the F008 vat bottoms and treated with EDTA and hypochlorite. Various rooms within the CMP facility were set up to perform specific functions including sludge storage and curing, sludge cyanide treatment, and sand filters for dewatering the sludge. After treatment of the bulked F008 floor sweepings and vat bottoms, a sample was sent off for independent analysis. Results indicated elevated levels of nickel and chrome. Additional treatment with EDTA and hydroxyquinoline was employed, and the waste was then transported to CWM-CID. At least three loads were rejected by CWM-CID; they were returned to the site, retreated, and returned to CWM-CID for disposal. One of the loads was rejected because it contained open bags of silica sand; the bags were removed and the load was returned and accepted. The other loads were rejected on the basis of either TCLP metals or cyanide concentrations. Problems arose when the quality of the data supplied by an independent laboratory came into question and was later verified as inaccurate. The problem was solved by soliciting another laboratory to perform the necessary analysis for waste disposal parameters.

Disposal samples for the F007 and F009 waste streams were sent to Envirite, MRS, and CyanoKEM for treatibility studies. Independent analytical results suggested that the waste stream was well within the treatment standards for all of these facilities. Envirite performed treatibility studies on the wastewaters and indicated that they could accept the waste stream. A load was shipped to Envirite but was subsequently rejected because of complex nickel which could not be treated under Envirite's current waste treatment scheme. Further treatment with sodium sulfide was employed but was unsuccessful as evidenced by the subsequent rejection of the load. Only three loads of F007/F009 wastewater were ever accepted for disposal by Envirite from the CMP site. Samples of the remainder of the waste stream were rejected on the basis of the nickel complex

which they were unable to treat to meet their current waste analysis plan limitations. A load of F007/F009 wastewater was subsequently sent to MRS in Minnesota; it was also rejected due to the presence of a nickel-cyanide complex which could not be treated to meet the appropriate discharge standards. Consequently, the only alternative was to transport the waste to CyanoKEM in Detroit for treatment and disposal.

1.5.7 Final Procurement of Additional Funding

An Amended Action Memorandum for a ceiling increase of $403,710 was approved on June 2, 1991. The new and final project ceiling was $1,808,926. The increase was used to finance the completion of: 1) transportation and additional treatment of F007/F009 wastewaters as the nickel complex problems had not been previously anticipated; 2) transportation and disposal of equipment, demolition wastes, and F006/F008 sludge; 3) disposal of the remaining laboratory inventory; 4) removal and disposal of the friable asbestos on-site, and 5) demobilization of the site.

1.5.8 Final Treatment and Disposal

At the completion of the project, 480 cubic yards of special non-hazardous waste were disposed of at CWM-CID. Additionally 250 cubic yards of stabilized F006/F008 sludge were also disposed of at CWM-CID. Envirite accepted 12,065 gallons of F007/F009 wastewater for treatment and disposal. CyanoKEM accepted the remaining 33,150 gallons of F007/F009 wastewater. The mercury, cadmium, and arsenic waste was sent to Drug & Lab Disposal (see Table 1).

After removal of all of the waste and contaminated equipment the floors were washed twice with a hypochlorite solution and rinsed with water to destroy any residual cyanide. Any remaining equipment was decontaminated as well.

1.5.9 Air Monitoring and On-Site Safety

Air monitoring operations were performed daily. Each morning before work began the site was screened with an HNu photoionization detector. During ongoing treatment operations, workers directly involved wore a monitox that detected hydrogen cyanide. Two permanent cyanide monitors were also placed in the areas of heavy activity. The facility was periodically screened for dangerous concentrations of carbon monoxide as there were many machines and motors running inside the facility. Four personal air monitoring samples were analyzed for asbestos. Results indicated that the amount of asbestos fibers present were under the personal exposure limits (PEL) set by OSHA. When weather conditions became excessively warm and heat stress became a concern, baseline vitals were

TABLE 1
WASTE DISPOSAL SUMMARY
CHICAGO MODERN PLATING
January 4, 1991 - August 20, 1991

CATEGORY	QUANTITY	DATE SHIPPED	MANIFEST NUMBER	DISPOSAL METHOD	DISPOSAL FACILITY
Non-Haz Special Waste	20 cu yd	2/28/91	4052408	Landfill	Chemical Waste Management CID Corporation P.O. Box 1296 138th & Calumet Expressway Calumet City, IL 60409
"	20 cu yd	3/5/91	3041913	"	"
"	20 cu yd	3/5/91	3041914	"	"
"	20 cu yd	3/5/91	3041915	"	"
"	20 cu yd	3/6/91	3041916	"	"
"	20 cu yd	3/11/91	3041917	"	"
Haz Waste Solid, NA9189, F006	15 cu yd	3/14/91	3041918	"	"
Non-Haz Special Waste	20 cu yd	3/15/91	3207163	"	"
"	20 cu yd	3/18/91	3207165	"	"
"	20 cu yd	3/21/91	3207166	"	"
"	20 cu yd	3/21/91	3207168	"	"
Haz Waste Solid NA9189, F006	15 cu yd	3/22/91	3207167	"	"
Non-Haz Special Waste	20 cu yd	3/22/91	3207169	"	"
"	20 cu yd	3/27/91	3207171	"	"
"	20 cu yd	3/27/91	3207170	"	"
"	20 cu yd	4/5/91	3369052	"	"
"	20 cu yd	4/5/91	3041902	"	"
"	20 cu yd	4/12/91	3369054	"	"
"	20 cu yd	4/12/91	3369055	"	"
"	20 cu yd	4/16/91	3369056	"	"
"	20 cu yd	4/29/91	3369057	"	"
"	20 cu yd	4/26/91	4106464	"	"
"	20 cu yd	5/8/91	3041903	"	"
"	20 cu yd	5/16/91	3041904	"	"
"	20 cu yd	6/16/91	3041905	"	"
"	20 cu yd	6/10/91	4228282	"	"

TABLE 1
WASTE DISPOSAL SUMMARY (continued)
CHICAGO MODERN PLATING
January 4, 1991 - August 20, 1991

"	20 cu yd	6/21/91	4228281	"	"
Haz Waste Liquid, NA9189, F007, F009	4915 gal	6/26/91	3366991	treatment	Envirite Corporation 16435 Center St. Harvey, IL 60426
mercuric nitrate, UN1625 mercury, metallic, NA2809 arsenic trioxide, UN2811	7 lb 1 lb 1 lb	6/27/91	2302471	incineration	Drug & Laboratory Disposal 331 Broad St. Plainwell, MI 49080
Haz Waste Liquid, NA9189, F007, F009	4000 gal	6/28/91	3366995	treatment	Envirite Corporation same as above
"	3150 gal	7/10/91	4155513	"	"
Haz Waste Solid, NA9189,F006	15 cu yd	7/12/91	4042414	landfill	Chemical Waste Management CID Corporation same as above
"	15 cu yd	7/15/91	3504139	"	"
"	15 cu yd	7/16/91	3504128	"	"
Haz Waste Solid, NA9189, F006, F008	15 cu yd	7/17/91	3207177	"	"
"	15 cu yd	7/17/91	3207175	"	"
"	15 cu yd	7/18/91	3207178	"	"
"	15 cu yd	7/19/91	3207179	"	"
"	15 cu yd	7/22/91	3081175	"	"
"	15 cu yd	7/23/91	3207176	"	"
"	15 cu yd	7/24/91	3081176	"	"
Haz Waste Liquid, NA9189, F007, F009	4800 gal	8/1/91	1735742	treatment	Cyano-KEM 12381 Schaefer Hwy Detroit, MI 48227
"	4800 gal	8/3/91	2367730	"	"
"	4800 gal	8/3/91	2367731	"	"
"	4800 gal	8/5/92	1735584	"	"
"	4800 gal	8/5/92	1735585	"	"

established for the crew and monitoring of blood pressures, pulses, and temperatures continued through the warmer months. Most of the site activities were performed in level B protection. When cyanide treatment was complete and all of the acids had been bulked, site operations were downgraded to level C.

On April 5, 1991, while neutralizing acidic chrome solutions with caustic soda, acid vapors caused the cyanide meters and draeger tubes to indicate high cyanide levels. These indications were apparently caused by a cross-sensitivity of these instruments with sulfur compounds. The site was evacuated as a precautionary measure until no further readings were observed. This incident was not a reportable quantity release.

On May 20, 1991, Michael DelSignore of American Envelope (the adjacent business to the south) complained that odors from the CMP facility were entering their facility through wall air conditioning units adjacent to the CMP site. Further inspection revealed that sodium hypochlorite odors were exiting the CMP facility via an exhaust fan, and entering their facility via a set of window air conditioners. The venting system in the treatment area was rerouted from the south side of the building to the roof. Air monitoring for cyanide, chlorine, and ammonia was increased both inside and out, and no further problems or complaints arose.

The site was audited by the Health and Safety departments of both E & E and OHM. No significant safety problems were identified in either audit.

1.5.10 Crew Demobilization Periods

The crew was demobilized for the last week of February to accommodate the regional OSC training. The crew was also demobilized over the Memorial Day and Independence Day holiday weekends.

1.5.11 Asbestos Removal

PEI sent an industrial hygienist to the site to survey the condition of the asbestos and the area for removal. Subsequently PEI distributed a technical specification package for the friable asbestos removal. Three bids were obtained and Mars Environmental (Mars) was awarded the project. The asbestos removal took place between August 15 and 20, 1991. Mars removed approximately 20 cubic yards of friable asbestos insulation from overhead piping, a boiler, a tank, and transite paneling from the site's shift office. The waste was sent to Streator Landfill for disposal. PEI provided an industrial hygienist to perform air monitoring and static clearance sampling of the asbestos removal areas. Static clearance samples for all of the removal areas were within the 0.01 fibers/cc maximum limit. The highest

reading was 0.008 fibers/cc. The basement boiler room was locked and asbestos warning signs were placed on the door, as it remains unclear whether the boiler insulation contains asbestos. The site's basement boiler room is isolated from past plating operations, and is not included in the removal action as set forth within the action memorandum.

1.5.12 Menard Ave Drums Material

Approximately fifty 55-gallon drums of material believed to be animal fat was transported from Menard Ave Drums site (Site ID# LR), another CERCLA removal action site, to the CMP facility. The 50 cubic yards of material were stabilized with portland cement and transported to CWM-CID for disposal. All costs associated with this project were billed separately to the Menard Ave Drums site under Delivery Order No. 7460-05-171. A separate OSC report for the Menard Ave Drums site was prepared by OSC Brad Benning.

1.5.13 Site Shut-Down

After the completion of the removal action, the site keys and alarm access code were given to the court appointed assets broker, as previously arranged with the bankruptcy trustee and site owner. Remaining sets of keys were locked in the site office. The assets broker will continue to liquidate the site's assets without the OSC's involvement, as all hazardous wastes have been removed and remaining plating equipment has been decontaminated.

1.6 Community Relations

No formal community relations plan was developed for the site. OSC Charles Gebien maintained open communications with the City of Chicago officials and members of the community during removal activities.

1.7 Cost Summary

PEI Associates, Inc. (PEI) was the prime ERCS contractor for the removal action at CMP. PEI subcontracted the project to OH Materials (OHM). All work was carried out under contract No. 68-01-7460, Delivery Order No. 7460-05-175. Site activities commenced on January 4, 1991, and were concluded on August 20, 1991. Daily expenditures for services provided by PEI totaled $1,617,962 (see Table 2). TAT work was performed under Technical Direction Documents T05-9101-007, T05-9101-802, and T05-9102-001. Services provided by TAT totaled $ 69,736 (see Table 2).

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC report is not meant to be a final reconciliation of the costs associated with a particular site.

TABLE 2
SUMMARY OF TOTAL ESTIMATED COSTS
CHICAGO MODERN PLATING
January 4, 1991 - August 20, 1991

EXTRAMURAL COSTS:		
ERCS Contractor (1)		$ 1,617,962
Labor/Travel/Subsistence		705,354
Equipment		76,180
Materials		82,085
Transportation		42,491
Disposal		185,689
Subcontractors		526,163
TAT Contractor (2)		
	Subtotal	$ 69,736
INTRAMURAL COSTS:		
U.S. EPA, OSC - Direct Costs		40,906
Indirect Costs (3)		76,739
	Subtotal	$ 117,645
ESTIMATED TOTAL PROJECT COSTS		$ 1,805,343
PROJECT CEILING		$ 1,808,926

(1) Source: ERCS Contractor OH Materials DO # 7460-05-175 Invoice # 1175-9 (6/8/93)
(2) Source: TDD# T059102-001 TAT DPO Financial Management Summary
(3) Source: U.S. EPA Itemized Cost Summary (11/6/92)

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not meant to be a final reconciliation of the costs associated with a particular site.

2.0 EFFECTIVENESS OF REMOVAL ACTIONS

2.1 Responsible Parties

On December 6, 1990, the U.S. EPA entered into an AOC with the property owner Loraine Arendt. The PRP financed Phase I of the removal action which included the cleanup of the cyanide sludge that had spilled onto the street from the ruptured clarifying tanks. On January 31, 1991, the PRP's attorney notified the U.S. EPA ORC attorney John Tielsch of her inability to continue to finance a removal action as planned within the AOC. Consequently, the ERCS contractor PEI was employed to complete the removal action.

2.2 State and Local Agencies

Various officers from the Chicago Fire Department's Hazard Investigation Team, the Chicago Fire Department, and the Chicago Department of Consumer Services, visited the site during removal activities. These agencies provided many services including, traffic control barriers, police surveillance, and salt for thawing the spillage of cyanide sludge.

2.3 Federal Agencies

The U.S. EPA provided all monetary resources for Phase II of the removal action at the CMP site. Under direct guidance of the OSC, the cleanup effectively removed existing environmental and public health threats posed by conditions at the site.

2.4 Contractors, Private Groups, and Volunteers

Both ERCS and TAT performed satisfactorily in achieving all of the requirements and goals set forth within the Action Memorandum. No public groups or volunteers participated in the removal action.

3.0 DIFFICULTIES ENCOUNTERED

The MWRD as a matter of policy, would not allow discharges of treated wastewaters from CERCLA Removal Action Sites to their sewer connections nor would they accept the wastewater through shipment via tanker trucks to their POTW's. As a result, all wastewaters from the CMP site had to be sent to commercial treatment facilities at increased costs.

In order to prevent any possible release to the sewer system, the floor drains inside the facility were plugged with expandable plugs or concrete. Heavy rains and a severely deteriorated roof caused excess water to accumulate within the facility and subsequently be consolidated and transported off-site for commercial treatment.

The presence of an unforseen nickel cyanide complex complicated both the treatment scheme and disposal options for the wastewater and sludge. Problems were also encountered when an independent laboratory, used for the analysis of waste disposal parameters, provided inaccurate results. As a result of the inaccurate analyses, loads of waste were rejected, and a new laboratory had to be procured.

4.0 RECOMMENDATIONS

The on-site treatment of cyanide wastewater and sludges for cyanide destruction with hydrogen peroxide and sodium hypochlorite in portable "pools" was successful, in that, all F006 cyanide wastes were treated and met the RCRA Land Disposal Restrictions for total and amenable cyanide prior to land disposal. I would not recommend this type of cyanide treatment at smaller sites or at sites in an urban area where ammonia or chlorine odors from the treatment operations may migrate off-site and impact neighboring businesses or homes.